

[54] **LOW LIGHT LEVEL AND INFRARED VIEWING SYSTEM**

[75] Inventor: John H. Lewis, Los Angeles, Calif.

[73] Assignee: Xonics, Inc., Van Nuys, Calif.

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[58] Field of Search ..... 250/315 A, 315 R, 330, 250/331; 350/362

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Primary Examiner—Alfred E. Smith

Assistant Examiner—Janice A. Howell

Attorney, Agent, or Firm—Harris, Kern, Wallen &amp; Tinsley

**ABSTRACT**

A viewing system for improving an image, and particularly designed for use with infrared and low light level inputs. A viewing system having first and second electrodes mounted in spaced relation with a gap therebetween, an electric power source for producing an electric field in the gap attracting electrons toward one electrode and positive charge toward the other, a photoresponsive layer on the gap face of the first electrode with radiation directed onto the layer through the first electrode producing an electrostatic charge image at the gap, and a plurality of electrophoretic particles dispersed in a dielectric liquid in the gap, with the particles being selectively deposited at the second electrode as a function of the electrostatic charge image. In the preferred embodiment, the deposited particles are viewed with a dark field illumination system whereby light is scattered to the viewing position by the deposited particles. Cascaded systems and systems incorporating image intensifiers are also disclosed.

**25 Claims, 12 Drawing Figures**